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BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

COMMENTS AND RECOMMENDATIONS OF THE MINNESOTA OFFICE OF ENERGY SECURITY ENERGY FACILITY PERMITTING STAFF

DOCKET NO. IP-6688/WS-08-973

Meeting Date: January 28, 2010……..……..Agenda Item # _____

Company: **EcoHarmony West Wind, LLC (EcoHarmony/EcoEnergy)**

Docket No. **PUC Docket Number: IP-6688/WS-08-973**

In the Matter of the Application of EcoHarmony West Wind, LLC, for a Site Permit for a 280-Megawatt Large Wind Energy Conversion System and Associated Facilities in Fillmore County

Issue(s): Should the Commission grant a site permit to EcoHarmony West Wind, LLC, for the 280 MW EcoHarmony West Wind Project?

OES EFP Staff: Larry B. Hartman 651-296-5089

Relevant Documents

Site Permit Application for EcoHarmony West Wind Project ..... January 26, 2008
ALJ Summary of Public Testimony ..... December 21, 2009

The enclosed materials are work papers of the Office of Energy Security (OES) Energy Facility Permitting (EFP) Staff. They are intended for use by the Public Utilities Commission and are based on information already in the record unless otherwise noted. This document can be made available in alternative formats; i.e., large print or audio tape by calling (651) 201-2202 (Voice) or 1-800-627-3529 (TTY relay service).

Documents Attached:
1. EcoHarmony Project Site Map
2. Proposed Findings of Fact and Conclusions
4. OES EFP Staff Exhibit List
5. Proposed Site Permit

(Note: see eDockets (08-973) or the PUC Facilities Permitting website for additional documents: http://energyfacilities.puc.state.mn.us/Docket.html?Id=19910.

Statement of the Issue

Should the Commission grant a site permit to EcoHarmony West Wind, LLC, for the 280 MW EcoHarmony West Wind Project?

Introduction and Background

EcoHarmony West Wind, LLC, (EcoHarmony/EcoEnergy) applied for a site permit to the Commission on January 26, 2009, to develop the proposed 200-Megawatt EcoHarmony West Wind Project. In July 2009, EcoHarmony submitted a letter informing the Commission of a request to increase the size of the proposed project by 80 MW to 280 MW. Plans for Phase II EcoHarmony East Wind Project are unknown at this time.

Project Location, Site Characteristics and Land Control
The proposed EcoHarmony West Wind Project is located in south central Fillmore County, just north of the Iowa border, as shown on the accompanying map. See Attachment 1 in Commissioner's packet.

The project boundary includes the townships of Harmony, Bristol, York, Carimona, Forestville and Preston, all in Fillmore County. The project boundary encompasses approximately 50,000 acres. These townships are zoned agricultural. The topography within the site is comprised of rolling hills with long low ridges and intermittent drainage ways and minor streams. The site includes a number of broad ridges with elevations approximately 1,350 above mean sea level. Surrounding elevations are lower by as much as 150 to 200 feet. The primary ridge in the area lies in an easterly to westerly direction and is a prominent landscape feature. The project area includes karst, a landform shaped by the slow dissolution of limestone rock. The dominant land use is agricultural, comprised of corn and soybeans. There are also numerous woodlots and windbreaks within the proposed site boundaries. Average farm size in Fillmore County is approximately 280 acres; the county has a population density of around 24 persons per square mile, which is considered low.

Within the project site boundary there are approximately 475 landowners and approximately 50,000 acres of land. EcoHarmony has obtained lease and easement option agreements and/or rights to such agreements with 118 different property owners of 327 parcels totaling approximately 24,750 acres of land within the project site boundary. If necessary, additional wind rights and buffers may need to be obtained to comply with site permit setback

requirements. Land and wind rights will need to encompass the proposed wind farm and all associated facilities, including but not limited to wind and buffer easements, wind turbines, access roads, meteorological towers, electrical collection system and electric lines located on or along public road rights-of-way.

Additional land rights will need to be acquired for the 8.5 mile long 161 kV transmission line.

EcoHarmony West Wind Project

The EcoHarmony West Wind Project as proposed was to have a nameplate capacity of 200 hundred megawatts, and then EcoHarmony amended its CN and site permit applications to increase nameplate capacity from 200 MW to 280 MW for the following reasons: a) the demand for renewable energy will support an investment in a larger project, b) the wind resource in Fillmore County and within the existing footprint of the West Wind Project will allow for the operation of a larger project, and c) the MISO interconnect line planned for the EcoHarmony West Wind Project can handle the additional power. A final decision on turbine selection and design has not been made, but the project will consist of turbine with a rated output between 1.5 and 3.0 MW in such number and combination as produce 280 MW. Turbines are typically placed on towers 80 meters (262 feet) in height. Rotor diameters vary from 77 to 101 meters (253 to 331 feet).

Some of the proposed permit conditions for large wind energy conversion system (LWECS) are based on criteria that are dependent on turbine size. Turbines must be placed within the project boundary and meet all permit conditions. Accordingly, the final siting ("micro-siting") of wind turbines for the project will depend on, among other factors, the size of the turbines chosen for the project.

The project will also include an underground automated supervisory control and data acquisition system (SCADA) for communication purposes. Up to four permanent meteorological towers will be used as part of the communication system. Other components of the project include a concrete and steel foundation for each tower, pad-mounted step-up transformers, all weather class 5 roads of gravel or similar material, and an underground energy collection system and a project substation.

The blades are typically made of fiberglass with a smooth layer of gel coat that provides ultraviolet protection. The blades will be either white or grey in color. The blades will be equipped with lightning protection. The entire turbine is also grounded and shielded to protect against lightning.

A separate 161 kV transmission line approximately 8.5 miles in length will connect the Eco Harmony West Project substation to a new EcoHarmony switching station that will tie into a ITC owned 161 kV transmission line southeast of Harmony. The EcoHarmony 161 kV transmission line is being reviewed by the PUC (See PUC Docket No. IP-6688/TL-09-601).

Regulatory Process and Procedures

A Certificate of Need (CON) from the Commission is required for this project (Minn. Stat. §216B.243). On January 15, 2009, a Commission Order accepted the Certificate of Need Application from EcoHarmony West Wind Project. (PUC Docket No. IP-6688/CN-08-961). In its Order the Commission approved the use of an informal review process and requested that the Office of Administrative Hearings coordinate with Commission staff and hold at least one public hearing on the project. OES prepared an Environment Report for those proceedings.

A site permit from the PUC is required to construct a Large Wind Energy Conversion System (LWECS), which is any combination of wind turbines and associated facilities with the capacity to generate five megawatts or more of electricity (Minnesota Statute Chapter 216F). This requirement became law in 1995. The rules to implement the permitting requirement for LWECS are in Minnesota Rules Chapter 7854. In accordance with Minnesota Rule 7854.0500 Subp.2., a site permit may not be issued until the certificate of need or other commitment requirement has been satisfied.

Site Permit Application and Preliminary Determination on Draft Site Permit
On January 26, 2009, EcoHarmony filed a site permit application with the Commission. On February 27, 2009, the Commission accepted EcoHarmony's application for a Site Permit for the Project, authorized the OES EFP staff to name a public advisor for the Project, approved a proposed draft site permit for the Project for distribution and public comment, and authorized EFP staff to initiate the public participation process found in Minnesota Rule 7854.0900.

Public Participation Process
The rules provide opportunities for the public to participate in deliberations on the LWECS site permit application. The public was advised of the submission of the site permit application after the application was accepted. OES EFP staff held a public information and scoping meeting in Harmony, Minnesota, on April 15, 2009, to provide the public with an overview of the permitting process for LWECS and to receive comments from the public on the site permit application, draft site permit and issues to be addressed in the Environmental Report. The meeting also provided the public with an opportunity to ask questions of the applicant and express concerns or issues directly to EFP and EcoHarmony.

Approximately 75 people attended the meeting. OES EFP staff provided an overview of Certificate of Need (CON) and LWECS site permitting processes and responded to questions. OES EFP staff and EcoHarmony representatives responded to project specific questions and general questions about wind energy.

Questions were asked about the need for the project, transmission requirements, project timing, geology (karst), audible noise, low frequency noise, impacts on property values, shadow flickers, stray voltage, aerial spraying, property tax and public services required by turbines, setbacks from residences and homes, production taxes, avian impacts, decommissioning, liability for turbine accidents, emergency response situations, turbine lighting, use of local labor, television and phone reception, icing, and decommissioning. Following the public meeting

OES staff did receive several calls from people who attended the meeting and had additional questions after reviewing some of the project related materials. The deadline for submitting comments on the site permit application, draft site permit and topics (scoping comments) to be included in the Environmental Report required for the CN was May 20, 2009.

Public Comments

Ten written comments were received by the close of the comment period. Five comment letters were from the public (Ty and Dacia Bester, Hilary and Kathy Bianchi, Brian Huggenvik, Donald and Margaret Schoepski, and Galyn Simon); four comment letters from state agencies (Minnesota Board of Water and Soil Resources (BWSR), Minnesota Department of Natural Resources (DNR), Minnesota Department of Transportation (MnDOT), and the Minnesota Pollution Control Agency (PCA); and a letter from a representative of EcoHarmony are summarized below. (See Exhibit 9).

a) Ty and Dacia Bestor commented about noise, shadowing, visual impacts, property valuation, soil damage, and setbacks. Ty and Dacia Bestor also stated: "Create a 2,000 -2,500' setback, depending on turbine size, from properties that choose not to participate with this current project. By creating this type of setback one can minimize or eliminate the noise, shadowing and visual issues at hand."

b) Hilary and Kathy Bianchi commented that the turbines will reduce the value of their home.

c) Brian Huggenvik commented that he believes there should be a larger setback for non-participating landowners, to mitigate noise, shadow flicker and visual impacts. In conclusion, Mr. Huggenvik stated "I think it is reasonable and responsible to seek an increase in the setbacks to protect the non-participating citizens of Fillmore County from some of the negative effects of industrial wind.

d) Donald and Margaret Schoepski recommended "A minimum distance of 1/3 of a mile from property boundaries would give a much needed buffer for the people that receive the same good feelings about clean energy as any other person in the state, but are the only people in the state that have the negative impacts like decreased property values, increased noise levels and construction dangers."

e) Galyn Simon comments expressed concern about locating turbines in areas characterized by karst topography and asked that due respect be given to non-participating landowners.

f) Steve Lawler, Minnesota Board of Water and Soil Resources, commented that wetland assessment, delineation and wetland conservation act (WCA) application activities should be coordinated with the Local Governing Unit for wetlands in Fillmore County.

g) Randall Doneen, Minnesota Department of Natural Resources, commented about view sheds from the Forestville State Parks, the Cherry Grove Wildlife Management Area and the Cherry Grove Blind Valley Scientific and Natural Area are also close to the project area and suggested preparation of a view shed analysis. DNR also commented about the applicant doing bat surveys.

h) Chris Moates from the Minnesota Department of Transportation (MnDOT) commented that "three miles of MN 139 are within the project area and may be affected by transmission and substation location proposals in the future."

i) Jessica Ebertz, Minnesota Pollution Control Agency (PCA) commented that: "It is actually the Stormwater Pollution Prevention Plan (SWPPP), which is required as part of the application for the NPDES Permit and which site owners and their construction operators must jointly create, that lays out the specific BMPs, along with their locations and functions. Ms. Ebertz also commented that new impaired waters are regularly being identified, and that the list is updated every two years.

j) A representative of EcoHarmony also submitted a letter indicating that: 1) EcoHarmony is committed to analyzing the project's view shed impacts and discussing these findings with the DNR; 2) the Applicant will keep the DNR advised of the work being done on the bat study; and 3) up to four met towers may be required for the project, rather than two as originally proposed.

A public hearing was held in Harmony on November 29, 2009. Administrative Law Judge (ALJ) Steve M. Mihalchick presided at the public hearing and was asked to prepare a summary of public testimony presented at the hearing. The ALJ's summary of testimony was filed with the Commission and eDocket system on December 21, 2009.

OES EFP Staff Comments and Analysis

EFP staff has reviewed the "Summary of Testimony at Public Hearing" prepared by the ALJ, exhibits introduced into the hearing record as well as the written comments summarized above. The following EFP staff comments and analysis address several of the concerns or comments identified in the ALJ' Summary of Public Testimony. Some of the concerns expressed above are addressed in the proposed Finding and it is not necessary to re-state or address them here.

Karst Landscape-Galyn Simon and Brian Huggenvik
The comments offered by Galyn Simon and Brian Huggenvik both expressed concerns over the potential of sinkholes occurring in the Project area, caused by the karst layer in the local geology. Mr. Huggenvik pointed out that there were numerous sinkholes in the vicinity of some of the proposed turbine sites and suggested "that any borings done to determine the nature of the ground for siting of individual turbines be overseen by an agency with experience in this topography."

EcoHarmony Response: To address this concern, Eco Energy Wind contracted with a geoeotechnical consulting firm, American Engineering Testing, to analyze, evaluate, and plan mitigation for potential issues with the karst topography. AET developed a *Work Plan for Geotechnical Investigation,* which includes but is not limited to the following:

> At each of the wind turbine sites, the geotechnical investigation will consist of three phases – (1) a geophysical investigation (electrical resistivity) to explore for voids in the bedrock; (2) followed by soil/bedrock borings to check the results of the electrical resistivity survey; (3) followed by a series of electric cone penetrometer (CPT) soundings if the potential for loose zones in the soil overburden are suspected.

AET also describes methods for ensuring that each wind turbine foundation is properly constructed depending on the soil conditions. As EcoHarmony stated in its application at page 45:

> The evaluation process will eliminate the selection of potential turbine sites that may be susceptible to sinkhole formation. In addition to the site evaluation, a system to monitor potential ground subsidence at turbine sites will be incorporated into project construction.

OES EFP Response: The proposed site permit incorporates the requirements of the "*Work Plan for Geotechnical Investigation"* as a special condition in the proposed site permit at III.M.4, to insure that turbine placement also considers karst features. The geotechnical investigation will also be filed as a compliance document prior to the start of construction. It is also in EcoHarmony's best interest to avoid the placement of turbines in areas where sinkholes are likely to occur.

Shadow Flicker, Noise, Visual Impacts and Setbacks—Brian Huggenvik and others
Ms. Huggenvik and other commenter's expressed concerns about shadow flicker, noise, visual impacts and setbacks and offered suggestions as to what he considered appropriate setbacks and questioned how issues such as compliance with noise requirements impacts are addressed and followed up on when there is an issue.

EcoHarmony Response: EcoHarmony performed a shadow flicker analysis and noise analysis for the recently commissioned Stephenson County, Illinois wind farm that resulted in turbines being moved from their proposed locations. EcoHarmony noted that the closest turbine to a house at Stephenson County was 1,371 feet and at that distance there was "absolutely no shadow flicker." EcoHarmony committed to performing a similar study for shadow flicker and noise for the proposed Project.

OES EFP Response: Shadow flicker is described as "a moving shadow on the ground resulting in alternating changes in light intensity." Shadow flicker computer models simulate the path of the sun over the year and assess at regular time intervals the possible shallow flicker across a

project area. The outputs of the model are useful in the design phase of a wind plant. Other than within approximately two rotor diameters from the base of a turbine, shadow flicker usually occurs in the morning and evening hours when the sun is low in the horizon and the shadows are elongated. Shadow flicker does not occur when the turbine rotor is oriented parallel to the receptor, or when the turbine is not operating. In addition, no shadow flicker will be present when the sun seen from a receptor is obscured by clouds, fog, or other obstacles already casting a shadow such as buildings and trees.

Shadow intensity, or how "light" or "dark" a shadow appears at a specific receptor, will vary with the distance from the turbine. Closer to a turbine, the blades will block out a larger portion of the sun's rays and shadows will be wider and darker. Receptors located farther away from a turbine will experience much thinner and less distinct shadows since the blades will not block out as much sunlight. Shadow flicker will be greatly reduced or eliminated within a residence when buildings, trees, blinds or curtains are located between the turbine and receptor. Shadow flicker consultants generally agree that flicker is not noticeable beyond about 10 rotor diameters from a wind turbine. Evidence of flicker effects is hard to find, it is more of a nuisance issue. There are no published standards for shadow flicker and no examples of turbines causing photosensitivity related problems. In Germany, 30 hours of shadow flicker per year is acceptable. The 30 hour number is based on the premise that the sun is shining, the building affected is occupied, the occupants are awake and the turbine is operating. The proposed site permit does not specify shadow flicker limits in terms of minutes or hours per year. However, EcoHarmony will consider shadow flicker in its design layout. This is addressed as a special condition in the proposed site permit at III.M.3.

Mr. Huggenvik and other commenter's in this proceeding had questions or concerns about sound or noise from the wind turbines and, the potential for health effects from exposure to low frequency noise. Similar concerns and questions have also been raised in several other Commission dockets in the past couple of years. By way of background, in late February 2009, OES requested a "white paper" from the Minnesota Department of Health (MDH) evaluating possible health effects associated with low frequency noise vibrations and sounds arising from large wind energy conversion system (LWECS). A commenter on another wind project, the Lakeswind Wind Power Plant, in Clay, Becker and Ottertail counties (Docket No. IP6603/WS-08-1449), also wrote to the Commissioner of MDH to ask for an evaluation of health issues related to exposure to low frequency sound energy generated by wind turbines. In March 2009, MDH agreed to evaluate health impacts from wind turbine noise and low frequency vibrations. The MDH released its "white paper" on the "Public Health Impacts of Wind Turbines on May 22, 2009, and it was included in the Environmental Report (Appendix D), and submitted for the Certificate of Need (CON) proceeding for the Bent Tree Wind Project (Docket No. T-6657/CN-07-1425).

In a letter (August 13, 2009) to a citizen who had follow up questions to the MDH white paper, MDH Commissioner, Sanne Magnan, M.D., Ph.D, responded to specific questions posed as follows:

Are current standards in Minnesota safe? Regulatory standards protect health and safety, but whether for air, water or noise, regulators do not set "bright line" standards without also considering cost, technical difficulties, possible benefit and alternatives. No regulatory standard offers absolute safety. The Minnesota Department of Health can evaluate health impacts, but it is the purview of regulatory agencies to weigh these impacts against alternative and possible benefits.

Are the proponents of wind turbine syndrome mistaken? As noted in the "White Paper," the evidence for wind turbine syndrome, a constellation of symptoms postulated as mediated by the vestibular system, is scant. Further, as also noted, there is evidence that the symptoms do not occur in the absence of perceived noise and vibration. The reported symptoms may or may not be caused by "discordant" stimulation of the vestibular system.

Does more study of adverse effects need to be undertaken? More study may answer questions about the actual prevalence of unpleasant symptoms and adverse effect under various conditions such as distance to wind turbines and distribution of economic benefit. However, there is at present enough information to determine the need for better assessment of wind turbine noise, especially at low frequencies. Such assessments will likely be beneficial for minimizing impacts when projects are sited and designed. Also, even without further research, there is evidence that community acceptance of projects, including agreement about compensation of individuals within project areas, will result in fewer complaints. Therefore, more research would be useful, but the need will have to be balanced against other research needs.

EcoHarmony is considering and evaluating both noise and shadow flicker during the final planning stages of the EcoHarmony West Project to make informed decisions about turbine placement. The permit (III.E.3.) requires the Permittee to comply with noise standards established by the Minnesota Pollution Control Agency.

The proposed site permit (III.M.2 and III.M.3) requires the Permittee to submit a proposal to the Commission for the conduct of a noise study and an evaluation of shadow flicker.

Setbacks and Permit Conditions

Several commenter's expressed the need for setbacks from homes and non-participating landowners of 1,500 feet or more to account for noise, shadow flicker, health concerns and other general concerns (visual, lower property values).

OES EFP Response: The LWECS site permit contains a number of mitigation measures, setback requirements, preconstruction survey requirements, site layout restrictions and other numerous requirements that provide for environmental protection and public health and safety. In addition to the site permit, the Permittee must obtain a number of other permits from federal, state and local units of governments after the site permit issues. Those permits are identified in the site permit application. Typically, the LWECS site permit does not specify individual turbine locations, because of numerous other details that must be planned and coordinated, including working with downstream permitting authorities and landowners. At the pre-construction meeting or prior to, the Permittee must demonstrate compliance with the conditions in the site permit for setbacks and site layout restrictions. The site permit also establishes the parameters for project design and implementation. If, for example, turbines or associated facilities are located in prairie, a native prairie mitigation plan is required. Environmental monitoring or studies may also be implemented or required if warranted, based on results of post-permit issuance detailed site evaluations of potential turbine locations. For example, a noise study, shadow flicker analysis and geotechnical investigation because of karst in the project boundary is being recommended for this Project.

The turbines and associated facilities will be placed on the properties of persons who have leased their wind and land rights to the EcoHarmony for the proposed EcoHarmony West Wind Project. Non-participants who have not leased land or wind rights to EcoHarmony will not have turbines or associated facilities on their properties. In addition, the wind turbines will be set back from the property lines of non-participating landowners by a minimum of 1,265 to 1,655 feet on the prevailing wind axis and 759 to 993 feet on the non-prevailing wind axis. See site permit at III.C.1. EcoHarmony has stipulated that all turbines will be 1,000 feet or more from homes. See permit condition III.M.1. Based on a preliminary turbine layout, the closest turbine to a non-participating landowner will be around 1,300 feet. EcoHarmony will also comply with Minnesota's noise standards.

With regard to various setbacks, there are numerous site permit requirements that protect natural resource features as well as public health and safety. Minnesota has close to 2,000 megawatts of operating wind energy facilities in place. Prior to July of 2005, those facilities were permitted by the Minnesota Environmental Quality Board. Since July 2005, LWECS have been permitted by the Minnesota Public Utilities Commission. Many of the permit conditions in this proposed site permit have been LWECS site permit conditions since 1995. In the past 14 years, wind farm participants in Minnesota have not filed any public health or safety concerns with the EQB or the Commission, the responsible governmental unit; nor have comprehensive avian and bat studies demonstrated significant fatality or mortality impacts.

Minnesota Department of Natural Resources Comment Letter

As noted in the ALJ's summary, the Minnesota Department of Natural Resources (DNR) expressed concern regarding the alteration of a historically significant view from the Forestville State Park, based a preliminary view shed analysis prepared by EcoHarmony and discussed with the DNR that indicated that 10 to 15 proposed turbine sites would be visible from the Forestville State Park outlook site. The Forestville State Park outlook site is a frequently visited overlook that represents a presettlement vista of the unique landscape of southeastern Minnesota. The DNR subsequently determined that turbines located north of County Route 44 and west of

Kodiac Road may alter the view shed and recommended avoiding the placement of turbines in the northwest corner of the Project area, or coordinating turbine placement with the DNR to avoid visual impacts. The DNR also suggested that, to the extent that fewer turbines are ultimately installed, installation of turbines for the Project be commenced in areas other than the northwest corner of the project area.

Avian and Wildlife Issues

With regard to avian and wildlife issues, DNR's comment letter submitted to the ALJ also discussed the bird and bat surveys conducted by EcoHarmony. The DNR recommended that EcoHarmony's final bird and bat survey reports, expected in early 2010, be considered when micrositing each turbine. The DNR further recommended that EcoHarmony's micrositing be coordinated with the DNR utilizing information from these reports to avoid impacting local and migratory bird and bat populations.

In conjunction with the discussion of avian issues and as noted the ALJ Summary of Testimony at Public Hearings, the potential impact of the Project on avian populations, particularly that of bald eagles, was raised by Christian Frank and Noel Frank, farm owners in Fillmore County. The Franks noted that an active bald eagle nesting site was located in the southwestern portion of section 1 in Bristol Township. The Franks also related observations of eagles using the valley encompassing their family farm for winter habitat. To protect this population, the Franks recommended adoption of a 1-mile setback requirement for all wind turbines from the areas used by bald eagles. The Franks expressed their belief that this setback requirement would affect five proposed wind turbine locations. The Franks also recommended that any micrositing be done in consultation with the DNR and a wildlife biology specialist from the U.S. Fish and Wildlife Service.

EcoHarmony Response: EcoHarmony responded to DNR's concerns regarding the Forestville State Park overlook and indicated that the nearest turbine will be approximately three miles away. At that distance, EcoHarmony estimates that "between ten and twenty of the wind turbines will be partially visible above the tree line from an observation deck facing the southeast." As to DNR's view shed, EcoHarmony responded as follows:

> EcoHarmony has met with the DNR to discuss its concern and will continue to meet with the DNR during the micrositing process as the precise locations for turbines are selected. However, it is simply not going to be possible to avoid having some turbines be visible from certain locations in the Park. Significantly, the turbines will not be visible from most locations in the Park and not in directions other than southeast.
>
> There are other countervailing factors that must be taken into account besides DNR's desire that its Park visitors no see wind turbines while looking over the parkland. Private landowners have the right to install wind turbines on their property. The DNR cannot deprive these landowner of their rights simply because Park visitors may be able to see them.

> Further, the State and EcoHarmony are also interested in making efficient use of the wind resources. The law requires the Commission to not only consider environmental impacts but to site wind projects to make efficient use of the wind resource. Minn. Stat. section 216F.03. Elimination of locations to protect a view shed could make the project less efficient from an energy standpoint.

As to the potential impact on eagles, EcoHarmony's response indicated that its consultant, Natural Resources Consulting, Inc., currently studying avian and bat impact, will specifically address the eagle population in that study. EcoHarmony has committed to discussing the completed study with both the DNR and the U.S. Fish and Wildlife Service. As to setbacks from eagle roosts, EcoHarmony indicated that its initial turbine siting resulted in setbacks of over one mile from known eagle roosts.

OES EFP Response: The DNR does not have any view shed or scenic easements on lands outside of the Forestville State Park that provide for protection of the view on property outside of the park. As EcoHarmony observed, the nearest turbine will be more than three miles from the state park. A permit condition that requires a setback from the Forestville State Park is not warranted. The OES believes that EcoHarmony and DNR can continue to meet and discuss the view shed, as well as the results of the avian and bat survey during the micrositing process.

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The OES EFP staff believes the record in this matter is sufficiently robust to allow the Commission to make a decision on the site permit application. OES EFP also believes the proposed site permit provides sufficient measures to provide necessary guidance regarding project design, construction, restoration, monitoring and operation of the proposed EcoHarmony West Wind Project.

Standard for Permit Issuance

The test for issuing a site permit for a Large Wind Energy Conversion System is to determine whether a project is compatible with environmental preservation, sustainable development, and the efficient use of resources. Minnesota Statutes Chapter 216F. The wind statutes incorporate certain portions of the Power Plant Siting Act, including the environmental considerations. Minnesota Rule 7850.4100. Also, the law allows the PUC to place conditions in LWECS permits. Minnesota Statutes 216F.04 (d).

Based on the record of this proceeding, DOC EFP staff concludes that the EcoHarmony West Wind Project meets the procedural requirements and the criteria and standards for issuance of a site permit identified in Minnesota Statutes and Rules. The site permit application has been reviewed pursuant to the requirement of Minnesota Rules Chapter 7854 (Wind Siting Rules).

In accordance with Minnesota Rule 7854.0500 Subp.2, the Commission may not issue a site permit for an LWECS, for which a certificate of need is required, until an applicant obtains such a certificate from the Commission. EcoHarmony has applied to the Commission for a certificate

of need for the EcoHarmony West Wind Project (CN-08-961). Accordingly, OES, EFP staff recommends adoption of findings of fact and conclusion of law for the EcoHarmony West Wind Project.

OES EFP staff has prepared for Commission consideration proposed Findings of Fact, Conclusions and Order, Exhibit List for the EcoHarmony West Wind Project, and a proposed Site Permit for the 280 MW EcoHarmony West Wind Project.

The site criteria addressed in the Findings of Fact (such as human settlement, public health and safety, noise, recreational resources, community benefits, effects on land based economies, archaeological and historical resources, animals and wildlife and surface water) track the factors described in the PUC's rules for other types of power plants that are pertinent to wind projects. The conditions in this proposed Site Permit are essentially the same as conditions included in other LWECS site permits issued by the Environmental Quality Board and the Commission.

The proposed site permit also includes four special conditions (See site permit III.M. 1-4) which provides for a minimum 1,000 foot setback from all homes or residences, noise study, shadow flicker analysis and geotechnical investigation.

A number of issues were identified during the course of this proceeding and they were summarized above in "*Public Comments*'' and the ALJ's "Summary of Testimony" submitted on December 21, 2009, and discussed in "*OES EFP Staff Comments and Analysis.*"

Proposed Findings of Fact

The proposed Findings (see Attachment 3 in the Commissioner's packet) address the procedural aspects the process followed, describe the project, and address the environmental and other considerations of the project. The proposed Findings of Fact reflect some findings that were also made for other LWECS projects. The following outline identifies the categories of the Findings of Fact.

Category	**Findings**
Background and Procedure	1 – 15
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Project Description	17 – 24
Site Location and Characteristics	25 – 27
Wind Resource Considerations	28 – 30
Land Rights and Easement Agreements	31 – 32
Site Criteria	33 – 99
Site Permit Conditions	100 – 101

Exhibit List

OES EFP staff has prepared an exhibit list of documents that are part of the record in this permit proceeding (See Attachment 4 in Commissioner's packet). The exhibit list provides a direct link to the exhibits identified. However, all of these are not included or identified as exhibits by the ALJ.

All ALJ Exhibits received prior to the close of the record on November 23, 2009, are on eDockets at 08-973 and identified as exhibits 1 through 16. The ALJ's "Summary of Testimony" (See Exhibit 11) also refers to those exhibits, and provides a direct link to them. The exhibit list provided by OES identifies some, but not all of the exhibits referred to by the ALJ's written summary.

Proposed Site Permit
The OES EFP Staff has prepared a site permit for the Commission's consideration. See Attachment 5 in the Commissioner's packet.

Commission Decision Options

A. EcoHarmony West Wind Project Findings of Fact and Conclusions

1. Adopt the attached Findings of Fact, Conclusions of Law and Order prepared for the 280 MW EcoHarmony West Project Phase in Fillmore County.

2. Amend the Findings of Fact and Conclusions of Law as deemed appropriate.

3. Make some other decision deemed more appropriate.

B. LWECS Site Permit for the 280 MW EcoHarmony West Wind Project

1. Issue the proposed LWECS Site Permit for the 280 MW EcoHarmony West Wind Project to EcoHarmony West Wind, LLC.

2. Amend the proposed LWECS Site Permit as deemed appropriate.

3. Deny the LWECS Site Permit.

4. Make some other decision deemed more appropriate.

OES EFP Staff Recommendation: The staff recommends Options A1 and B1.